IN THE CLAIMS

1-23. (Canceled)

- 24. (Previously presented) A method of introducing a nucleic acid encoding a desired molecule into cardiomyocytes which comprises:
 - infusing a recombinant adeno-associated virus (AAV) vector into a coronary artery or a coronary sinus of an animal in an amount of about 1 x 10⁵ to about 1 x 10⁹ infectious units (IU) AAV per gram body weight and for a time sufficient to stably and efficiently transduce cardiomyocytes perfused through said artery or said sinus, wherein said AAV vector comprises at least one nucleic acid operably linked to a control region, said nucleic acid encoding said desired molecule.
- 25. (Previously presented) The method of claim 24, wherein said AAV transduces at least about 10% of said cardiomyocytes.
- 26. (Previously presented) The method of claim 24, wherein said AAV transduces at least about 40% of said cardiomyocytes.
- 27. (Previously presented) The method of claim 24, wherein said AAV transduces at least about 50% of said cardiomyocytes.
- 28: (Previously presented) The method of claim 24, wherein said AAV is infused for at least about 2 minutes to about 30 minutes.
- 29. (Previously presented) The method of claim 24, wherein said AAV is infused for at least about 5 minutes to about 20 minutes.
- 30. (Previously presented) The method of claim 24, wherein said AAV is infused for about 15 minutes.
- 31. (Cancelled)
- 32. (Previously presented) The method of claim 24, wherein said amount of AAV is about 1 x 10^6 IU AAV per gram body weight to about 1 x 10^8 IU AAV per gram body weight.

- 33. (Previously presented) The method of claim 32, wherein said amount of AAV is about 6 x 10^7 IU AAV per gram body weight.
- 34. (Cancelled)
- 35. (Previously presented) The method of claim 28, wherein about 1 x 10⁶ IU AAV per gram body weight to about 1 x 10⁸ IU AAV per gram body weight is infused.
- 36. (Previously presented) The method of claim 35, wherein about 6 x 10⁷ IU AAV per gram body weight is infused.
- 37. (Previously presented) The method of any one of claims 28, 35, or 36, wherein said AAV is infused for about 5 to about 20 minutes.
- 38. (Previously presented) The method of claim 37, wherein said AAV is infused for about 15 minutes.
- 39. (Previously presented) The method of claim 24, wherein about 6 x 10⁷ IU AAV per gram body weight is infused for about 15 minutes.
- 40. (Previously presented) The method of claim 24, wherein said coronary artery is infused ex vivo or in vivo.
- 41. (Currently amended) The method of claim 24, wherein said desired molecule is an anti-sense RNA or a protein <u>capable of inducing angiogenesis</u> or is <u>capable of inhibiting angiogenesis</u>.
- 42. (Currently amended) The method of claim 24, wherein said desired molecule is an ion channel protein, a contractile protein, a phospholamban, a β adrenergic receptor, a β adrenergic kinase, a growth factor, an angiogenic factor, a protein capable of inducing angiogenesis, or a protein capable of inhibiting angiogenesis.
- 43. (Previously presented) The method of claim 24, wherein said desired molecule is FGF-1, FGF-2, FGF-5, VEGF, or HIF-1.
- 44. (Previously presented) The method of claim 24, wherein said desired molecule is thymidine kinase,-p21, p27, p53, Rb, or NF-kB.

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- 45. (Previously presented) The method of claim 24, wherein said cardiomyocytes are in an individual having a vascular condition selected from the group consisting of restenosis, atherosclerosis, congestive heart failure, ischemic cardiomyopathy, malignant arrhythmia, myocardial infarction, congestive heart failure, and dilated and hypertrophic cardiomyopathy.
- 46. (Currently amended) The method of claim 24, wherein said desired molecule has an effect selected from the group consisting of inducing angiogenesis[[,]] <u>and</u> inhibiting angiogenesis[[,]] <u>stimulating or inhibiting cell proliferation, treating restenosis, treating atherosclerosis, treating congestive heart failure, treating ischemic cardiomyopathy and treating malignant arrhythmia.</u>
- 47. (Currently amended) The method of claim 41, wherein said <u>desired molecule is an</u> antisense RNA [[is]] capable of inducing angiogenesis or is capable of inhibiting angiogenesis.

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